EAST WEST UNIVERSITY
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
Lab I Examination, Spring 2022 Semester

Course: **CSE246 Algorithm, Section-03**
Instructor: **Jesan Ahammed Ovi, Senior lecturer, CSE Department**
Full Marks: **10 (05 will be considered for final grading)**
Time: **1 Hour**

Note: There are TWO questions, answer ALL of them. Course Outcome (CO) and Mark of each question are mentioned at the right margin.

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1. Given the arrival and departure times of all trains that reach a railway station, the task is to find the minimum number of platforms required for the railway station so that no train waits. You are given two arrays that represent the arrival and departure times of trains that stop. [CO3, Marks: 6]

   Examples
   Input: arr[] = {9:00, 9:40, 9:50, 11:00, 15:00, 18:00}
   dep[] = {9:10, 12:00, 11:20, 11:30, 19:00, 20:00}
   Output: 3
   Explanation: There are at-most three trains at a time (time between 9:40 to 12:00)

   Input: arr[] = {9:00, 9:40}
   dep[] = {9:10, 12:00}
   Output: 1
   Explanation: Only one platform is needed.

2. Write a function that calculates the value of X^y. Here X and Y is given as input. You have to implement a function using divide and conquer approach that calculate the required value. [CO3, Marks: 4]

   Example
   Input
   X 3
   Y 2

   Output
   9